# SPREADSHEET CELL HAVING MULTIPLE DATA FIELDS

This application is a continuation of prior application Ser. No. 07/408,166, filed Sep. 15, 1989, now abandoned.

## RELATED INVENTIONS

The present invention is related to the following inventions, all assigned to the assignee of the present invention:

System Control Structure of a Hospital Information System and Method of Using Same, having Ser. No. 116,614, and filed on Nov. 3, 1987;

Medical Information System With Automatic Updating of Task List In Response to Charting Interventions on Task List Window Into An Associated Form having Ser. No. 268,822, and filed on Nov. 7, 1987, now U.S. Pat. No. 5,077,666;

Clinical Task List with Charting onto Underlying Form and Automatic Updating of Task List, having Ser. No. 268,323, and filed on Nov. 7, 1987, now U.S. Pat. No. 5,072,383.

Method for Generating Patient-Specific Flowsheets by Adding/Deleting Parameters, having U.S. Pat. No. 4,878,175 issued on Oct. 31, 1989;

Forms Manager, having Ser. No. 540,382 and filed on Jul. 19, 1990, a continuation of Ser. No. 322,740, now abandoned;

A Method for Displaying Information from an Information Based Computer System, having Ser. No. 407,979 and filed on Sep. 15, 1989;

A Method for Displaying Information from an Information Based Computer System, having Ser. No. 407,836 and filed on Sep. 15, 1989;

Electronic Data Storage Interface, having Ser. No. 408,178 and filed on Sep. 15, 1989;

Method for Updating Data in a Database, having Ser. No. 408,167 and filed on Sep. 15, 1989;

Method for Storing a Transaction in a Distributed Database System, having Ser. No. 408,164 and filed on Sep. 15, 1989;

A Method of Forming a Spreadsheet Display, having Ser. No. 407,972 and filed on Sep. 15, 1989; and

Data Storage Audit Trail, having Ser. No. 409,230 and filed on Sep. 15, 1989.

## FIELD OF THE INVENTION

The present invention relates, in general, to the use of spreadsheets in a computing system and, more particularly, to the cells used to form the spreadsheet.

## BACKGROUND OF THE INVENTION

The present invention relates to an automated records management system. Such an automatic system has utility, for example, in a hospital based patient record keeping system. Patient record keeping systems are used for maintaining a wide variety of separate, often interrelated, types of medical records concerning patients.

Hand written patient record keeping systems have evolved through many years of careful refinement and enhancement into systems which maintain a detailed manual record of medical information concerning each patient. To meet the needs of different hospital entities (such as doctors, nurses, pharmacy, accounting, laboratory, etc.) a manual record keeping system would require that one piece of information be entered into multiple records.

In a typical manual patient record keeping system a patient chart, usually in the form of a notebook, is maintained at the nursing station for each patient. The notebook is divided into a plurality of individual tabbed sections, such as Physicians Orders, Kardex, Nursing Care Plan, Nursing Assessment, and Laboratory.

Each of the above sections is further subdivided into a number of forms. The forms are those which are appropriate to the individual patient and/or such patient's physician. For example, within the Laboratory section there may appear forms for chemistry, hematology, blood gas, and microbiology.

In addition, a "flowsheet" chart is usually kept at the patient's bedside. On the "flowsheet" chart there are individual areas for medications records, vital signs, intake/output, laboratory results, and other categories which are dependent upon the patient's affliction, such as intravenous (IV) drips.

The flowsheets are often a type of spreadsheet arranged by a progression of time versus a particular parameter. Each of the time/parameter intersections form a cell.

A limitation of the manual record keeping systems is the fixed size of the cell. This fixed size can cause limitations on the amount of data that may be placed in the cell. Alternatively, the fixed size of a cell may be a waste of space if it is made large enough to cover any contingency.

In electronic spreadsheets, such as Lotus 1-2-3, produced by Lotus Development Corp., or Excel, produced by Microsoft Corp., the cell sizes are adjustable but may contain only one piece of data or information. In medical record keeping it is often necessary to display multiple pieces of data or information in a single cell.

In the medical field, one cell in a flowsheet may have a form or report associated with it which expands on the information in the cell. The information contained on the associated form or report may be divided into the general categories of mandatory, optional, notational, or other information. The mandatory information is information that must be present and is normally entered in the cell. Optional information is information that will be entered in the cell if present on the form. Notational information is not entered directly to the cell but may be indicated in the cell by a notation or indicator.

In addition, it is desirable, from a standpoint of efficiency, that the cells be self adjusting to fit the data or information that may be present on the form or record. If there is mandatory information present but no optional information, the cell may be made smaller by removing the space that would otherwise be used for the optional information.

Accordingly, it is an object of the present invention to provide a spreadsheet cell which overcomes the above deficiencies.

A further object of the present invention is to provide a spreadsheet cell which has multiple data fields for displaying more than one piece of data or information.

Another object of the present invention is to provide a spreadsheet cell which is self adjusting in physical form to provide for the display of multiple data fields.

These and other objects and advantages are achieved in accordance with a preferred embodiment of the invention described below.